

INDIANS AT • WORK



DECEMBER 15, 1936

A NEWS SHEET FOR INDIANS
AND THE INDIAN SERVICE

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I N D I A N S A T W O R K

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SNOW STUDY - MONTANA



Photograph by U. S. Forest Service

· INDIANS · AT · WORK ·

A News Sheet for Indians
and the Indian Service

VOLUME IV · · DECEMBER 15, 1936 · · NUMBER 9 ·

We came down from the Sierras to Pyramid Lake. For nearly a thousand miles thereafter, WATER would be the master - the King. Verily, water is destiny in this Nevada and interior California country.

Pyramid Lake, owned by the Paiute Indians, is a kind of City of Heaven, beautiful as Heaven. It is a doomed city because the Sierra waters have been appropriated for irrigation. The lake's level falls two feet each year. Salinity increases so that the fish-life has only a few years more to go. That means more than \$10,000 a year lost to the Pyramid Lake band. It means one of the splendors of the West, destroyed.

Down southward, three hundred miles, three days later we saw dust darkening the sky to the mountain-tops. This dust was Independence Lake, blown by a slight wind. Twenty years ago steam-boats plied on this 40-mile-long lake. Now it is nothing but a glistening bowl of salts. A hundred miles north of it is dreamlike Mono

Lake. Mono is a big lake too, but Mono too must die. To an island in Mono Lake come a million sea gulls every year. They fly right over the highest Sierras, to nest on this far inland island. For what tens or hundreds of thousands of years this migration has been repeated! After five or ten years more, the gulls will perish at Mono Lake.

And down through Owens Valley, above whose wide sweep the snows of Mount Whitney are gleaming - tens of miles upon tens of miles of dead orchards, dead cottonwoods and poplars, dead homes of men. Water is fate, in all this country.

Los Angeles reaches nearly four hundred miles northward for its water and it takes all the water. Thence northward, reclamation projects take it all.

I met with the Indians at Pyramid Lake, at Fallon, at Walker River. The Owens Valley Indian spokesmen came to the Walker River meeting. Water - water, was a part of every discussion.

But the discussions had many other burdens, too. I had not visited the Nevada Indians since twelve years ago. Two years under Superintendent Bowler and under the I. R. A. have brought to Nevada's Indians a real renaissance. One of the most downcast and directionless of Indian areas has become one of the most energetic areas - and the Indians are "going somewhere", and they know where they are going. Under "the shadow of the sword" - a dearth of water and loss of water - these Paiutes, Washoes and Shoshones are re-establishing their life.

They are getting new lands. In Owens Valley, through land exchanges, the 800 Indians will all be placed on irrigated holdings. At McDermitt, Pyramid Lake and Walker River the bands are successfully launched in the cattle business. Cooperative trading enterprise at McDermitt has added nearly 30 per cent to the real income. Admirably worked-out credit plans are going forward at Pyramid Lake and at McDermitt. The Walker River and Fallon Indians have come to grips with their problem of heirship lands - which under the I. R. A. (at Walker River), or temporarily not under it (at Fallon), is the most baffling of all Indian economic problems.

Arts and crafts revival, and folklore revival, are soundly under way, centering in the Carson School and in its arts-crafts cooperative, now an incorporated body under the Nevada laws.

Miss Bowler and her staff have achieved decentralization and real staff action in this immense jurisdiction. (The jurisdiction is nearly 600 miles from end to end.)

But what is the master-impression from these exciting days? It is the impression of a stupendous land (mountains and valleys, distances and skies are all stupendous), an exquisite land, whose spiritual quality is Indian. It is the Indians who possess this land. There is not a mountain, not a cave, not a dim-green or russet volcanic mound, which is not named with a name by Indians not dead or gone, and not forgetful. Still, and hardly less than of old, the magic might, an invisible lightning, flashes between

these Indians and their desert and its precious animals and plants. Still they sing their obscure challenging song of how they (a people and individuals) are like to, are one with, the desert bush whose roots are far-clasping, deep-hidden, drought-defying, immortal. These Indians need not die; they want not to die; they are consciously striving, now, for the means to live on. They will live on - and not merely as a blood, but as a culture and a vision.

And now, once more - water, the King. We are flying above Boulder Dam. Can these be the yellow waters that drift from the Navajo range into the Colorado? Blue as the lakes of the Italian Alps, today, within its thousand delicate promontories of colored rock, the deep lake reaches far away to the north. And eastward there is a haze growing rosy over the Navajos' Painted Desert.

JOHN COLLIER

Commissioner of Indian Affairs

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COVER PICTURE

The cover picture on this issue of INDIANS AT WORK was taken on Baptiste Creek, Flathead National Forest in Montana. The photograph is by the U. S. Forest Service.

A TRIBUTE TO SAMUEL M. BROSIUS

Fifteen years ago, at San Juan Pueblo in New Mexico, there was handed me an unsigned document treating of the Pueblo lands. The struggle over the Albert B. Fall -- Bursum bill was just about to commence. This unsigned document stated the whole factual and legal case for the Indians; and its language was so simple, its procession of argument so logical, that any Indian could understand it.

Afterward I learned that Samuel M. Brosius had supplied this basic statement -- a statement which court rulings and legislative action of future years were to confirm.

Mr. Brosius even then was an elderly man. Thirty years of service to Indian rights lay behind him. But fifteen years of service were still in front of him.

It was only three months ago that I last saw Mr. Brosius. He came to tell me of the most recent developments of the Walapai land case. This very complicated and important issue had been forced by Mr. Brosius, at personal sacrifice, five years ago. As in the Pueblo case, Mr. Brosius had been firmly based in the facts and in the law.

Mr. Brosius served for a lifetime as counsel for the Indian Rights Association. He built himself into the history of Indian life. He was a good man, a brave man and always he kept a true humility. May such as he be provided for the future: for the cause of Indian rights will still be a battling cause, through many years to come.

John Collier

Commissioner of Indian Affairs.

THE DRAMA OF NEW WORLD CIVILIZATION

By Duncan Strong, Anthropologist - Bureau of American Ethnology



Dated Monument Of Stela At
The Maya City Of Quirigua

Viewed as a stage, the North and South American continents, in relation to the land masses around the north pole, appear as a great extension of the Asiatic continent. Anywhere from ten to forty thousand years ago, when the great ice sheets were receding into the north, ancient peoples from Asia pushed across the narrow straits between the Asiatic and North American continents and entered into a vast New World unoccupied by any other humans. These first comers were extremely primitive hunters and fishermen who, following food supplies consisting of animal herds, fish and wild plants, in the course of endless centuries eventually pushed their way through Central America and into the furthest reaches of South America.

The occupation of the New World undoubtedly began with a few migrant hunters and continued for endless centuries. Group after group entered from the north. In the new and congenial environment they increased until practically every portion of the New World was occupied by groups of these originally Mongoloid people who, since the time of Columbus' mistaken identification, have been known as Indians.

Only in very recent years have the traces of these first great migrations been found in our western plains and along the eastern borders of the Rocky Mountains. Here archaeologists have found, often in association with animal forms that today are extinct, ancient stone implements which were used by that early group of New World hunters. These remains are today known as the Folsom culture which is discussed elsewhere in this issue. From the time of the Folsom hunters, at least ten thousand years ago, to that of the "discovery" of America by Columbus, the New World was the scene of the unfolding of a great drama of civilization entirely unique from any of the higher civilizations of Asia and Europe.

Not only did these early hunters find an abundant food supply in the great herds of caribou, bison and other animals, but they found an infinite variety of plant forms utterly unknown in the old world. How long the ancestral Indians remained solely as hunters and gatherers is not known but it certainly comprised many millennia. Even today in the extreme north and in the extreme south there are still Indians who have never passed beyond this primitive economic stage. In the regions of Middle America, however, as population increased new plants were utilized and, in the course of time, many of these came to be artificially cared for. A new and vastly important economic step leading to agriculture has been made. It was the independent development of agriculture, based on unique and autochthonous plants, which started the American Indian on the highroad of cultural progress culminating in the great civilization of the Mayas and the Andean empire of the Incas.

The exact point of origin of native American agriculture is unknown but there is a strong probability that it may have begun in several places at once. The most important native American agricultural product was maize, commonly called corn, which seems to have originated in the highlands of Guatemala or Mexico. In the south many varieties of potatoes were developed in the highlands of Peru and Colombia. In the great jungles of the Amazon, manioc, from which cassava is made, became the staple food of the Indians. As the cultivation of native plants improved and as the idea of agriculture, along with its products, spread from tribe to tribe true civilization began in the New World. It is this long and fascinating story of the rise of the ancient empires of America that the archaeologists are now patiently unearthing in the jungles and mountains of the American tropics.

In Central America the greatest civilization was attained by the Maya Indians whose numerous descendants still dwell on the Peninsula of Yucatan and in the highlands of Guatemala. From a simpler cultural level based on agriculture, Mayan civilization seems to have flowered very rapidly. They built huge cities of stone ornamented by beautiful and intricate carving, created exquisite works of art in jade and pottery, and invented a calendric system superior in accuracy to that we use today. Not only did the Maya invent a calendar but they recorded important dates in stone carvings and these monuments today serve as one



The Temple Of The Sun At
The Maya City of Palenque

of the most important means of unravelling the complex story of New World pre-history. About 800 A. D., the centers of Mayan civilization shifted from southern Guatemala into northern Yucatan and great cities, such as Chichen Itza, were built. The reasons for this shift are not positively known, but it is believed that the peculiar agricultural system of the Maya, based on clearing the jungle by fire before planting, had destroyed the forests of their original home land and introduced grass lands into the area. Such savannas were not productive under the agricultural methods then in use, and the dense population was forced to move on in search of new areas for cultivation.

The Mayas in the New World have justly been compared with the Greeks of the Old World since they seem to have originated much of the culture which was taken over by later peoples of Mexico and farther to the north. Never strongly united, the great Maya cities of the north fell into civil war and their power was broken by the advent of militaristic Toltec and Aztec warriors from the Valley of Mexico. The Toltec and Aztec civilizations in the Valley of Mexico were raised upon the substratum of Mayan accomplishment. It was the great militaristic empire of the Aztec which Cortez encountered in his desperate and dramatic march from the sea to Tenochtitlan, today the capital of Mexico. The Aztec, less advanced in the arts and sciences than the Maya, had developed the science of domination and their great empire included many tribes. It is highly probable that Cortez and his little band of desperate men would never have been able to conquer these great warriors and empire builders save for the circumstance that the Valley of Mexico was already rent by civil war.

Contemporaneous with the Aztecs to the north were the Incas of Peru. The Incas, originally a small highland tribe dominated by an able aristocratic caste, in the course of a few centuries conquered all the western portion of South America from Chile to Colombia. Like that of the Aztecs, Inca civilization was based on the cultural and artistic achievements of several older civilizations centering around Lake Titacaca and the coast of Peru. One by one the remnants of these ancient empires fell before the organized Inca invaders and were incorporated into that great system of autocratic socialism which characterized the Inca rule. Tolerant of local religions, the Inca insisted only upon the worship of the sun and the use of the Quechua language. When a province was conquered it was organized into districts under local headmen. Sons of the local chieftains were taken to Cuzco to be initiated into the arts and beliefs of the Incas. Should the conquered population prove rebellious they might be removed into other parts of the empire where, among strangers, they could do no harm. Land was allotted on the basis of families, trades where hereditary and all products, other than those of immediate subsistence, were regarded as the property of the state. Elaborate systems to prevent soil erosion and to irrigate dry areas were maintained. Natural resources such as wild, wool producing llamas were protected. Vast storehouses were built in each district. Stone paved roads and bridges were constructed and a government messenger service installed. Thus, messages and produce could be carried from one end of the vast empire to the other in a few days.



Pre-Inca Temple At Pachacamac, Peru

All power eventually centered in The Inca, head of the original autocratic clan, who was regarded as the Son of the Sun. The divinity of The Inca was so highly regarded that The Inca married his sister in order that his heir might have no alien blood. A great convent or school existed for the daughters of the nobility where in seclusion they were taught the arts of weaving, and eventually might be chosen as concubines for The Inca or wives for the higher nobility. Likewise, a stern school of politics and warfare was maintained for the sons of the nobility. These were required to pass tests of hardihood and skill before they were admitted to the status of manhood. Here again, the Spaniards were fortunate in the time of their conquest. When Pizarro invaded the Inca empire he likewise found it in the throes of civil war. Unlike the somewhat looser Aztec empire, that of the Incas was so centralized that when, by a combination of boldness and political trickery, Pizarro seized and executed The Inca, the great decapitated system fell apart.

Such in brief are a few of the later and more dramatic episodes in the New World drama. Part of the long struggle of earliest American hunters to attain civilization is told in a later article. This conquest of nature continued for thousands of years as indicated by numerous archaeological remnants of the simpler civilizations in both North and South America. Two such fascinating areas, that of the Southwestern United States and of the Mound Building peoples of the Mississippi Valley, will be subsequently discussed by

authorities in those fields. Like the great empires of the Andes and of Central America, these civilizations of the northern border also arose upon a common agricultural base extending from Argentina to the St. Lawrence River. High as were the attainments of certain native populations in what is now the United States, it must be remembered that they were overshadowed by the great city, states and empires of Mexico, Central America and western South America. It was in these latter regions that New World agriculture was first developed and it was there that native American civilization reached its zenith.

When European conquerors appeared upon the scene they were superior to the natives of the New World in methods of destruction and in some places they destroyed more than they have ever replaced. If the Europeans had steel and gunpowder, the natives of America had developed systems of agriculture superior to those then in use in Europe and their arts and philosophical systems while unique were infinitely complex and thoroughly adapted to the land of their development. The European conqueror brought to the American Indian, war, slavery, disease, and often, extermination. The American Indian gave to Europe many of its most important present-day food crops and medicines. Northern Europe without corn and potatoes, Africa without cassava, man the world over without rubber and tobacco, the tropics without quinine, would today be unthinkable. Yet each of these essential products was developed by the American Indian over millennia of experimentation and toil.

Thus, if there be any epilogue to this drama, it might be the recommendation that we who brought "civilization" to the American continent think gratefully of the many contributions which the truly native Americans have made to our own present-day life.



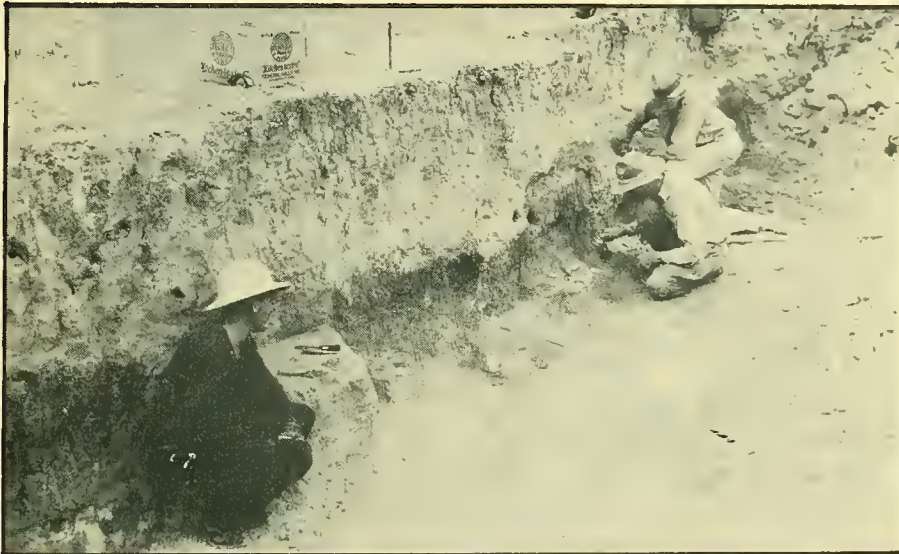
Inca Walls Still In Use, Cuzco, Peru

EARLY MAN IN AMERICA

By Frank H. H. Roberts Jr., Archaeologist,

Bureau of American Ethnology, Smithsonian Institution

Numerous finds indicating a greater antiquity for the American Indian than had previously been granted have focused attention on the subject of early man in the New World. As a result there has been a rapidly growing interest in the question, how long has the Indian been in America? Archaeologists have been busy searching for clues and while they have several significant discoveries to their credit the problem has not yet been solved. Present evidences only furnishes a hint of the proper answer. In a number of places stone tools were found with the bones of extinct animals under conditions suggesting that the men who made the implements hunted and killed the



Digging At The Lindenmeier Site For Folsom Material

creatures. Because the animals belong to species believed to have become extinct at the end of the Ice Age, or shortly after the melting glaciers began their northward retreat, the associations are thought to show that men were present at the beginning of the present geologic period, if not actually at the end of the preceding one. This evidence is augmented by finds in other places where man-made objects were recovered from deposits that geologists identify as representative of the same general era. Sites containing such materials are located in Minnesota, Iowa, Nebraska, Kansas, Wyoming, Oklahoma, Texas, New Mexico, Arizona, Nevada and California.

Probably the best known examples are Gypsum Cave, Nevada, and the various locations designated by the name Folsom. At Gypsum Cave traces of an early group were found with remains of the giant ground sloth, the llama-like American camel, and possibly the small native horses. Little is known of the cultural pattern beyond the fact that the people were skilled chippers of stone implements, were workers in wood and feathers, used sinew thread to sew skin garments, and used several different colors to paint designs on their products. For weapons they used a short spear and spear thrower, they did not know the bow and arrow. Although they occasionally camped there over night they did not use the cave as a permanent habitation. They visited it mainly for hunting purposes. Nothing is known of the physical characteristics of the people as none of their skeletal remains have been found. The main significance of the evidence here is that it shows the ancestors of some as yet unidentified southwestern Indian group hunted animals that have long since been extinct.

The Folsom complex is characterized by an association of stone implements with bison, mammoth and musk-ox bones. The bison was similar to but much larger than the modern buffalo. The mammoth was the large hairy elephant



Split Bison Bones And Stone Implements Before Removal At Lindenmeier Site

which was one of the typical animals of the glacial period, yet it may have survived for a time after the present period began. The musk-ox, also a cold climate creature, still lives in arctic America, although many centuries have no doubt elapsed since it roamed across southern New Mexico and was hunted by the people living there. All that is known of the Folsom group is that it had a great variety of stone tools, including a peculiarly fluted projectile point which is called the Folsom point. No human remains have been found and there is no knowledge of what the Folsom men were like. There is no evidence for what type of shelter they may have used. On the other hand it is obvious

that they were typical hunters depending entirely upon big game for their maintenance. They no doubt supplemented their preponderant meat diet with wild seeds and "greens" but they did not cultivate their own vegetal food. That was a development attained by much later peoples. The Folsom groups probably did not settle long in one place but traveled wherever the animals moved. The most important sites for the remains of this group are near Folsom, New Mexico, the place where the original finds were made and from which the name was taken; at the old lakes beds between Clovis and Portales, New Mexico; and at the Lindenmeier ranch north of Ft. Collins, Colorado. Subsequent developments for this group have not been traced, but it probably evolved into some of the later Plains peoples.

In the region around Abilene, Texas, remains representing an early hunting pattern approximately on a par with the Folsom have been found. Some consider these older than Folsom while others are not in agreement on the estimated antiquity. Evidence for this group consists of stone hearths with charcoal and fragmentary animal bones buried deeply, sometimes as much as 25 feet, beneath sand, clay and gravel, and stone implements in the gravel beds.



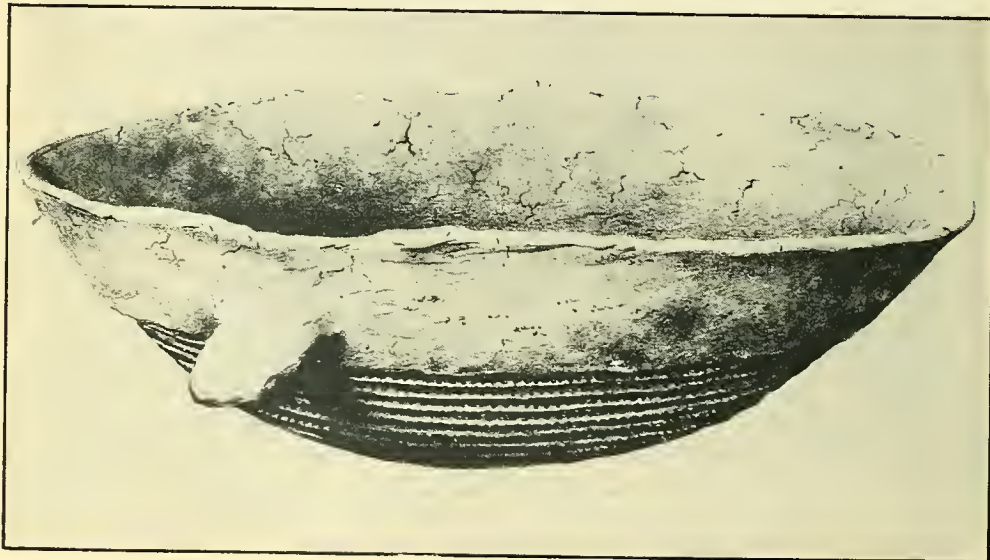
Folsom Points, Note Groove Along The Face

There are no extinct animal bones, but the deposits in which the specimens are found are called glacial by some geologists.

Both human remains and man-made objects have been found in Minnesota in deposits identified as glacial. Here again the evidence is for a simple hunting culture and the people are considered representative of an early type of Indian. Some of the specialists who have visited the sites believe them to be quite old, others think they represent considerable antiquity although not going back as far as the time of the glaciers.

General consensus is that North America was peopled from northeastern Asia and that the spread was along several routes down across the continent. Since the evidence for the early migrants shows that the first traces thus far found are subsequent to the climax of the last glaciation there is a starting point to help determine the time of the arrival of the first Indians. Because some of the finds indicate that they were here at about the close of the glacial period it seems likely that they must have traveled down along the eastern slopes of the Rocky Mountains through an open corridor in the great ice sheet, a corridor which is believed to have formed there about 15,000 years ago. Hence the remains must be later. Geologists have estimated that the Folsom deposits near Clovis are approximately 12,000 years old and that Gypsum Cave is subsequent to them. On this basis it can be said that the Indians have been in America from 12,000 to 13,000 years. The evidence, however, is so meager that this must be considered only as an approximation and when much more information is available the actual time may prove to be somewhat shorter.

* * * * *



Earliest Prehistoric Pottery
Basket Maker Period

A GLIMPSE OF THE PREHISTORIC SOUTHWEST

By Emil W. Haury - Assistant Director Gila Pueblo, Globe, Arizona.

The southwestern portion of the United States can lay claim to many things of scientific interest. This may be in its mountains and canyons, in the varying vegetation of the hot semi-desert regions or in the cool forested areas and in the animal life of these diverse topographic sections. Of greatest interest to the anthropologist, the student of man, are the people who live here now, whose characteristics are well known; those people who were found here by the Conquistadores and who are known from their remains and brief historic accounts; and those people whose customs and industries are known least of all because of their great age and the lack of written accounts concerning them. Something of the life of these earliest peoples can be reconstructed by the archaeologist from the very meager amount of material which time has not destroyed.

For many years expeditions from our universities and scientifically minded institutions have been attacking this problem. They have been studying the ruins of the large communal houses of the prehistoric Pueblo Indian, the houses and burial remains in caves, the villages consisting of houses dug into the ground and places where man camped many thousands of years ago but left very little in the way of his handiwork behind him. By carefully piecing together many bits of evidence, insignificant in themselves, gathered by these various research projects, the archaeologists have given us a very interesting but incomplete picture of the life of the true American in the Southwest before Europeans set foot on the shores of the New World. Let us turn briefly to see what we know of some of the prehistoric people here, to mention hastily some of their accomplishments and to arrive at some idea of their age.

Evidence is accumulating swiftly to show that man lived many thousand years ago in Texas, and the southern parts of New Mexico, Arizona and California. In those remote times man found the region considerably different than today because of a difference in climate - a period of more moisture than we are accustomed to today - occasioned by the recession of the last ice sheet of the Glacial Age. The "fingerprints" of man - his stone tools - are being found in these states under deep deposits of silt in the broad arid valleys and in the beach materials of extinct or nearly extinct lakes. Some of these lakes have been reduced to playas, or alkali flats, which show a thin sheet of water only after rains. One of these lakes in southeastern Arizona, now known as the Willcox Playa, was approximately forty feet deep as indicated by its old shore line. Along this shore ancient man lived, leaving the tools behind him that are being found today.

These implements, whether from the lake shores or from the compacted silt deposits which are now being laid bare by erosion, are mainly in the na-



A Site In Southeastern Arizona Where Tools Of Ancient Man Have Been Found

(The white deposit consists mainly of clay, laid down in a pond. At the feet of the man and under the clays is a bed of sand and fine gravel containing the man-made tools, indicating that man lived here prior to the formation of the pond which may be not less than ten thousand years ago.)

ture of grinding tools, supplemented by a small number of chipped implements, as knives and scrapers. The primary use of these tools was, of course, the procuring and the preparation of food. From the amount of grinding stones, it is inferred that some food product, possibly the root of tule, was pulverized. It is not necessary to believe that these implements indicate a knowledge of agriculture by these people, the high antiquity of the remains would argue against such knowledge. They apparently relied on nature to supply their food, and for this reason they have been placed in a food gathering stage of culture. Pottery was unknown to these people. As skeletal remains have not been found, nothing can be said of their appearance.

The age of these people is a geological problem. The geologist tells us that for many thousand years there has not been a sufficient amount of rainfall to have brought the extinct lakes to their former high levels indicated by the shore lines. The lake that once covered the Willcox Playa is said to have been full at about the end and for sometime after the Glacial Period, when glaciers covered much of Canada and many of the northern United States. Exactly how many thousands of years ago this was is not known, but a conservative age of ten thousand years has been estimated for these tools, and it is not improbable that they are much older, older in fact than Folsom Man described in the article on page 11.

How long these ancient food gatherers lived where their remains are found and what changes their culture underwent, we cannot yet say.

The "Hohokam" Or Ancient Ones

Our next real evidence of early people is also found in southern New Mexico and Arizona, but a vast change has taken place in their material possessions over those of the earlier people. These later people had dwellings known to the archaeologist as pit houses - houses dug partially into the ground;

they made vessels of clay for cooking their foods and for storing foodstuffs and water; they had acquired corn from a source not identified as yet and knew well its cultivation. Although these characteristics were shared by the people in the two states mentioned, they nevertheless differed in many other details and for that reason they have not been considered as belonging to the same stock. As we know much more about the group that lived in the Gila and Salt River valleys of southern Arizona than the New Mexican group, let us study them a little further.

These people are known to the archaeologist as the "Hohokam", a word borrowed from the Pima Indians meaning the Ancient Ones. Their oldest remains probably go back to a few centuries before the time of Christ. As time elapsed, they gradually became more expert at making pottery and they developed their artistic ability of painting designs on their pieces; they acquired or developed the carving of stone and shell, as well as many other things, so that their culture slowly became richer.

Approximately one thousand years ago the Hohokam reached a peak in this cultural development. Undoubtedly the height which they attained in this direction was made possible by the fact that they were excellent and provident farmers. Yet they lived in an environment that to many people seems harsh and inhospitable, especially in the summer. The Hohokam learned at an early date that if they were to mature their crops successfully means for artificial irrigation must be developed. As a consequence, canals were dug which led the water from the Gila and Salt Rivers to the fields of corn, beans, squash and cotton. We know that as early as about 800 A. D. canal irrigation was in full progress among the Hohokam. These canals were dug by hand, in some cases as much as sixty feet wide and six to eight feet deep. When canal irrigation was at its height, roughly between 1200 and 1400, several hundred miles of canals were in use. The development of these systems was one of the greatest accomplishments ever made by North American Indians. Only those who excavate modern canals with powered machinery can fully appreciate the enormous expenditure of human energy and the economic investment which the Hohokam had in their canal systems. But without them, life in large villages would have been impossible.

For more than a thousand years, the Hohokam habitually cremated their dead, while practically all other Southwestern people buried their dead.

Some time after 500 A. D., if we interpret the evidence correctly, the Hohokam began playing a peculiar kind of ball game in a court with high earthen sides. One of these courts, which was partially excavated at Snake-town on the Gila River Indian Reservation west of Sacaton, measured somewhat under two hundred feet in length and ninety feet in width. At the center a stone had been buried below the floor and "goal" stones were set into the floor near each end of the court. This court, and others known to exist in southern Arizona, is similar in some respects to the stone-walled ball courts of the Maya Indians of ancient days in Yucatan and Guatemala, 1500 miles to the south. In the game as the Maya played it, stone rings were set into the walls vertically, well above the floor and central in relation to the length



A Hohokam House Of A Thousand Years Ago

(This house was excavated by Gila Pueblo At Snaketown west of Sacaton, Arizona, two years ago. It was apparently used for storage, as many broken jars were found on the floor, some of which may still be seen. Entrance to the structure was gained through the oval passage in the foreground.)

of the court. The ball, made of rubber and about the size of a baseball, was bounced off the hips of the players, grouped in two teams, in an effort to send it through the stone ring. Since a rubber ball has been found in a Hohokam ruin of southern Arizona, dating about a thousand years ago, it is altogether probable that they, too, used balls of this material in the game. It is not necessary to assume, however, that rubber was acquired by the Hohokam from the far south, as it might have been obtained from the Guayule plant, a rubber bearing plant native to the Chihuahua Desert.

Another interesting and unparalleled accomplishment of the Hohokam was the etching of shell. To achieve this, a sea shell was partially covered with a waxy or pitchy substance in the form of a design. The shell was then immersed in an acid, probably the fermented juice of the giant cactus fruit, which slowly ate away the unprotected parts of the shell. Although the Hohokam used this method at about 1000 A. D., the etching of metal as a method of making pictures involving the same principles was not developed in Europe until about 1500.

The Hohokam seem to have lived unmolested until about 1300, when an immigrant group of Pueblo people from the northeast invaded their land. There is every indication that this invasion was a peaceful one and that the two peoples lived amicably in villages until about 1400 or 1450, when the Pueblos withdrew. During their occupation of the Gila and Salt River valleys, such large buildings as Casa Grande, Casa Blanca and Los Muertos were constructed. The evidence of the immigrants is seen in their pottery, in the character of their houses and in the fact that they buried their dead, all elements in which they differed from the Hohokam.

There are some reasons to believe that the present Pima Indians, living today in the area formerly occupied by the Hohokam, are their descendants. If the archaeologist can eventually prove this satisfactorily, it can be said that the Pimas have been living where they now are for at least two thousand years.

The Basket Makers

But what was going on in northern Arizona during all this time? In the San Juan area, at about the time of Christ, there were living a group of people known to the archaeologists as the Basket Makers. As the name implies, they made baskets of excellent quality. They also made many other items useful in their daily life, as sandals, twined bags and robes of fur wrapped cord. They cultivated corn and supplemented this vegetable diet with such game as they were successful in killing. Their hunting was done with a peculiar weapon known as an atl-atl, or spear thrower, a device designed to give the arm more leverage in hurling a spear. These people did not make pottery. Their dead were buried in a folded position, frequently in caves with their baskets, textiles and wooden objects. Fortunately the dry conditions of many of the caves have carefully preserved these things for us. In appearance the Basket Makers were quite tall - somewhat taller than the present day Pueblo Indian and their faces and heads were long and narrow.

Before 500 A. D., the Basket Makers began to make pottery of a primitive kind and atl-atl was supplanted by the bow and arrow. About 700 a new force arrived in the area, attributed to the appearance of a new group of people. They were somewhat smaller than the Basket Makers; their heads were round instead of oval and frequently deformed from contact with a hard cradle board on which the babies were carried. The resulting mixture of Basket Makers and the newcomers gave us what we know as the prehistoric Pueblo culture, the descendants of which are living today in the modern pueblos of Arizona and New Mexico.

From 700 A. D. on, this mixed group advanced rapidly in its material culture. The deep pit houses, still in vogue at 700, were transformed within a few hundred years to the large many-storied pueblos, as exemplified by Pueblo Bonito. The kiva, a subterranean clan room inspired by the old form of pit house, assumed prominence and has survived to the present day. Cotton was

introduced, making possible the weaving of fine textiles and excellent pottery of many kinds was produced and as the Pueblo Indians of today, they were essentially farmers. After 1000 A. D. these people built some of our largest cliff dwellings, as those in Mesa Verde, Betatakin and Keet Seel. These were all abandoned just before 1300 for reasons which will be explained presently.



A Cliff Dwelling Of The Prehistoric Pueblo Culture

(This picture was taken in the Canyon Creek Ruin, located on the Fort Apache Reservation. It shows but a few of the 60 rooms that once formed this communal house. The three large beams protruding from the top of the wall on the left support the roof of a second story room. They were cut in the year 1343 A. D. The tree ring dates for the entire village ranged between 1326 and 1348.)

Tree Ring Counts Form Basis Of Chronology Estimates

Perhaps the reader will have wondered long before this point how the archaeologist can speak in terms of dates in our Christian calendar as early as 500 when we have no written records prior to the arrival of the Spaniards in the 16th century. The ability to do this was made possible through the studies of tree growth carried on by Dr. A. E. Douglass of the Steward Observatory, Tucson, Arizona. Dr. Douglass found that the amount of growth of certain trees in any one year depends upon the amount of moisture the tree has received during the winter preceding the summer growing season. Thus, in a dry year, the growth, shown in the form of a thin layer of cells under the bark and known as a ring, will be small; in a wet year this ring will be large. Trees growing under the same general environment will be affected in the same way, so that all trees growing simultaneously will register the large and small rings in the same order. By comparing the tree ring records of growing trees, whose rings can be dated in our calendar, with the ring records of trees cut a century or two ago, and by further comparing these with trees cut a number of centuries ago, it became possible to build a continuous series of records. This chronology now extends to within a few years of the time of Christ as each ring has an annual value.

Because wood was extensively used by southwestern people in house building, the archaeologist can take the specimens, whether they are well-preserved pieces from caves or the charcoal from burned houses and fit them into the existing tree ring calendar. By this means it has become possible to say that Pueblo Bonito was occupied in the 10th to 12th centuries and that such ruins as Cliff Palace and Betatakin were occupied almost to 1300 A. D.

Drought Sequences Influence Population Movements

The tree ring record has also given us some rather definite notions as to when droughts occurred in the Southwest. This knowledge is becoming increasingly useful in interpreting the movements of people. We know, for example, that in the last quarter of the 13th century, the Southwest experienced a severe and extended dry period. From the tree ring dates we have learned that it was during this time that all of the great cliff dwellings of the San Juan area were abandoned. At the same time we are conscious that there was a southward expansion of the Pueblo people that took them into the Gila Valley where they joined the Hohokam. That the drought and these shifts in population should have taken place simultaneously cannot be considered a mere coincidence. It is probable that this same period saw the arrival of the vanguards of the Athapascan Indians - the Navajo and Apache of today - and that their appearance is also to be attributed directly or indirectly to the drought. They must have been largely instrumental in driving some of the Pueblo groups into southern Arizona. Forces of this kind the archaeologist is only now beginning to understand, thanks to the great contribution of Dr. Douglass' tree ring studies.

Let Us Cherish Our Pre-Historic Remains

To build up a history of the Indians of the Southwest, or any region, in pre-Spanish times, it is absolutely necessary that the archaeologist has the opportunity to examine the remains exactly as they were left centuries ago. For that reason it is the wish of the writer that all those who may read this article should wield their influence in preventing the exploitation of our ruins. Much information is being irretrievably lost by the digging of persons whose interests are commercial or who desire to satisfy a personal whim for amassing a collection of ancient material without having any real interest as to its significance. It should be borne in mind that our archaeological resources are not limitless and that those which are left should be preserved and studied with the greatest care.

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Prehistoric Pottery From Pueblo Bonito, New Mexico.

PREHISTORIC MOUND BUILDERS

By Frank M. Setzler,

U. S. National Museum, Smithsonian Institution

Within the past ten years important contributions have been made to the prehistory of the eastern United States. Additional and unsuspected data have been gathered concerning the tribes that inhabited Florida when Ponce de Leon discovered the peninsula in 1513. The mystery and misinformation with which the Mound Builders have long been concealed have been measurably lessened.

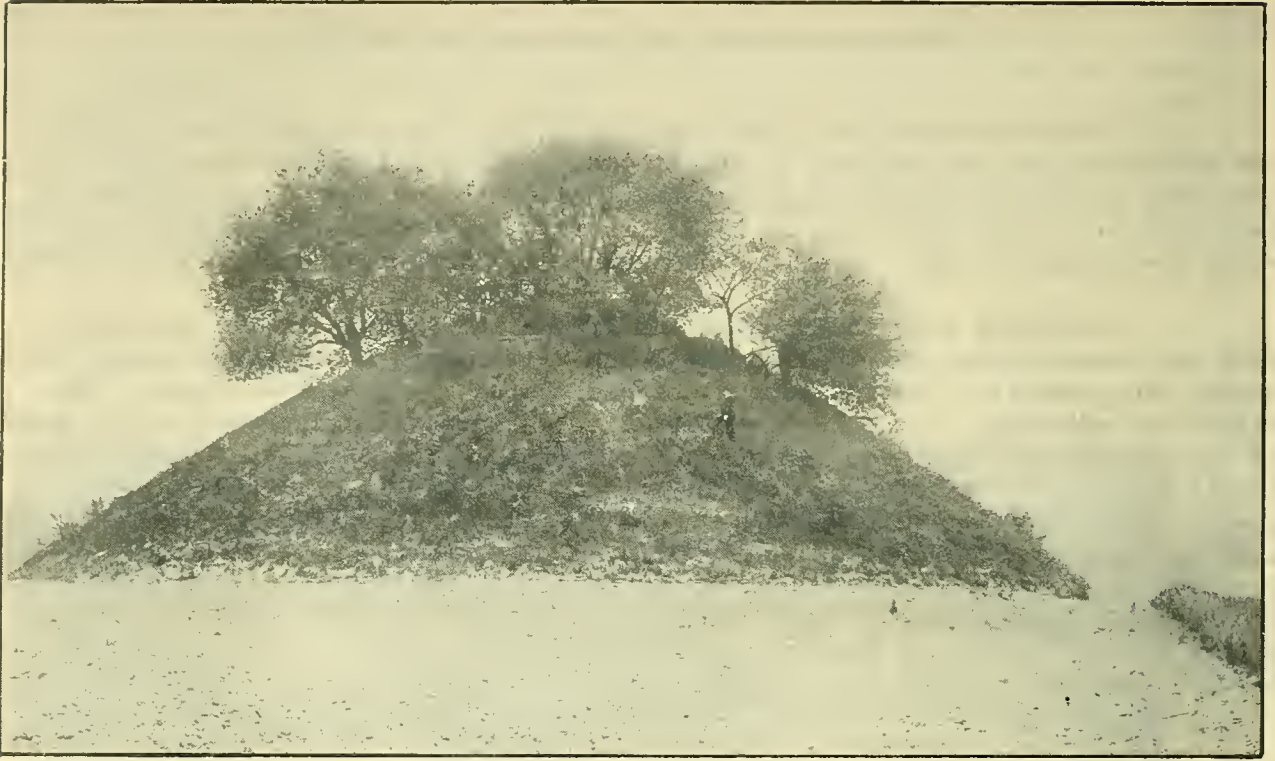
Beginning with the Spanish and French penetration in the Southeast, with the establishment of English and Dutch settlements along the Atlantic Seaboard, European civilization soon displaced the native Indian cultures. Not until the beginning of the 19th century did scholars suddenly realize that many of our aborigines were rapidly losing their tribal characteristics and that we should have no trustworthy record of their individual histories, their languages, mythology and tribal customs unless a determined effort was speedily made to recover and preserve such knowledge. It has been estimated that no fewer than 600 distinct and mutually unintelligible Indian languages were spoken within the present United States at the time Captain John Smith was trying to save the first English settlement in the New World, that of Jamestown, Virginia, in 1607.

Through archaeology we seek to reconstruct living history; to lift the veil of speculation from those diverse peoples who, directly or indirectly, have contributed to our own civilization. Through archaeology we endeavor to retrieve the history of peoples who left no written record of their own achievements.

The archaeological approach, of course, must lend itself to the particular condition encountered. As Indian tribes differed in language so did they differ in their material culture. When the Pilgrim Fathers landed on Plymouth Rock some of the Indians were still living in the Stone Age; some were farmers, dwelling in permanent villages whose very existence depended upon a highly perfected form of communal agriculture; some were hunters who followed the buffalo herds of the Great Plains. It is the story of these diverse Indian peoples, from their arrival in the New World down to the coming of the European colonists, that the archaeologist tries to recover and record. Almost from its very beginning in 1846 the Smithsonian Institution has been concerned with this problem of aboriginal discovery and settlement the dispersal and development into numerous Indian tribes, the creation and cultivation of distinctive plants, which form but a part of the prehistory of the United States.

Let us review briefly the results of certain archaeological projects recently concluded by the Smithsonian Institution. As an aid to the Govern-

ment's Civil Works Administration program to relieve the unemployment situation during the winter of 1933-34 the Smithsonian was invited to furnish trained archaeologists to supervise archaeological excavations in Florida, Georgia, North Carolina, Tennessee and California. This program was one of the most extensive ever attempted at one time in the United States.



Mound On Wolf Plains In Athens County, Ohio

In Florida three important sites were excavated. Near Bradenton, on the west coast, a mound revealed the entire floor plan of a temple giving the first outlines of such a Florida structure. It may have been at such a building that Juan Ortiz was used as a watchman during his captivity among the Calusa Indians. Ortiz was the Spaniard discovered by De Soto when he landed at Tampa Bay, May 30, 1539. This is the first mound discovered in Florida which contained systematic cremations. In the southeast corner of the temple a double row of posts reenforced the area where the cremations of the bodies took place.

Mounds near Cocoa-Rockledge, on the east coast of Florida, revealed bodies of the Surruque Indians, who occupied this part of Florida when it was discovered by the Spaniards. Menendez, the founder of St. Augustine, held a council in 1566 at or near Cape Canaveral which was attended by no less than 1500 of these Indians. The only knowledge of the Surruque left us by the early explorers of Florida is a brief catalog of repeated disasters, ending with their final extermination slightly more than 100 years after their first contact with

Europeans. It was the purpose of the 1934 excavations to supplement these scanty historical records.

A third site, near Belle Glade, Florida, revealed exceptional data requiring further study before any conclusion can be reached regarding the possible relationship of the historic Indians with the ancient remains.

One of the most important sites examined in the Southeast was near the city of Macon, Georgia. Extensive excavations were made in a group of mounds overlooking the Ocmulgee River as well as in others within the city limits of Macon. One of the most interesting discoveries disclosed was the foundation of a circular building. This agrees in most particulars with early descriptions of the covered ceremonial house or "hot house" of the Creeks - such as served the Indians as a combination temple, state house and men's club house. By careful work with trowels and whiskbrooms the floor of this structure was entirely exposed. It consisted of a stiff red clay plaster packed and polished by numerous moccasined feet. In the center was a sunken fireplace and, at equal distances from this, post holes which marked the former positions of the principal roof supports.

A most remarkable feature, and one never before observed in ceremonial houses of the southeastern Indians, is the encircling bench on which individual seats were modeled in clay and separated from one another by narrow ridges. Opposite the entrance, which opened to the southeast, was observed the modeled head of a great bird, probably an eagle, raised somewhat to serve perhaps as a ceremonial platform.

Near the present city of Murphy, North Carolina, a large mound was excavated which has been identified as marking the ancient town of Guasili, visited by Hernando De Soto in 1540. This site, at the junction of Peachtree Creek and the Hiwassee River, was described, at the time of De Soto's visit, as a town of 600 wooden houses, probably an exaggeration, and the capital of a province where the hungry explorers were given a hearty welcome and feasted upon dog meat. They caught and cooked some of the Indian dogs, to the amazement of the natives who never ate these animals. The Indians at once rounded up 300 of the creatures and gave them to the white man to cook.

One of De Soto's men wrote: "The lord who bore the name of the province left the capital half a league to meet the Spaniards, accompanied by 500 of the principal persons of the country, very gayly dressed after their fashion. His lodge was upon a mound with a terrace round it, where six men could promenade abreast." This site or mound has been definitely located, by Dr. John R. Swanton from its peculiar geographical location and checks with the description given by the early Spanish chroniclers who accompanied De Soto on his long march, as that of Guasili.

Within the Shiloh National Military Park, near Pittsburg Landing, Tennessee, several mounds and the adjacent village sites were excavated. The village site deposits revealed numerous house structures, and large quantities of broken pottery vessels were found in the mounds associated with the burials.



The Great Northern Mound At
Etowah, in northern Georgia.

(380 x 330 feet at the base and approximately 170
feet square on top, varying between 70 and 80 feet
in height)

This famous Civil War battle-ground will contribute largely to the reconstruction of the prehistoric Indians who used this beautiful site, located on the bank of the Tennessee River, long before white man inhabited the region.

The foregoing descriptions briefly summarize recent archaeological work in the mound area, primarily in the Southeast. Let us now consider some of the more widespread problems confronting archaeologists in the Mississippi Valley.

Soon after the opening of the Ohio country the more observing pioneers as early as 1786 described the extensive earthworks and mounds in southern Ohio. Among these early narrators can be included our illustrious President Thomas Jefferson. For a hundred or more years the Indian mounds throughout the Mississippi Valley have tempted inquiring minds. In the early part of the 19th century fantastic theories were developed in an attempt to explain these unusual structures. When scientific investigations were begun the workers were confronted with the theories that these mounds were erected by a superior race; that they embodied the remains of the Lost Tribes of Israel or the mythical Atlanteans. Not until the end of the 19th century, when the Bureau of American Ethnology began its extensive survey of the entire mound area, were we able to definitely establish the builders of these mounds as ancestors of the historic Indian tribes. This was a very important step. It put an end to speculative exploration and was the real beginning of scientific examination.

Unquestionable evidence has been obtained through documentary sources as well as archaeological investigations that some of the mounds were actually built by the historic Shawnee and Cherokee. Siouxan tribes inhabiting the southern portion of Ohio just prior to the European settlements are credited with the building of some of the Ohio mounds. We are now in a position to say definitely that all of the prehistoric mounds and earthworks in the Mississippi Valley were constructed by ancestors of our American Indians.

While the empires were rising and falling in Mexico and Central America, described in a previous paper, definite trade routes were probably being established leading from these high cultural centers into our present

Southwest and Mississippi Valley. Even though we cannot as yet prove a direct relationship between the prehistoric mound building cultures and the more advanced cultures in the Valley of Mexico, Central America or Peruvian highlands, certain ideas and decorative motifs are closely paralleled.

In the Lower Mississippi Valley artificial mounds were used as foundations for temple structures, while in the Upper Mississippi Valley they were used primarily for burial purposes. From all the evidence at hand at the present time and influenced to some extent by the actual periods of habitation accurately determined in the Southwest by the recent discovery of the tree ring chronology, we are led to believe that the entire mound building complex probably does not antedate a period roughly about 500 A. D. It may well be that the building of mounds, both as temple foundations as well as burial structures, originated in Mexico and spread northward.

Although the construction of temple mounds in Mexico differs, especially in covering the outsides with large cut stones or rough stones covered with plaster, never practised in the Mississippi Valley, the actual use of artificial mounds for temple foundations may well have spread with the dissemination of maize or corn, which originated somewhere in the highlands of Mexico.

When the early primitive hunters living in the Mississippi Valley came in contact with the more advanced and sedentary groups farther south, either by migration or through trade, they adopted and perfected maize and other indigenous plants to their own environment. At the same time the procedure of building their temple structures on artificial knolls and burying their dead in these earth tumuli became a part of their social and religious practices. The more sedentary life which the cultivation of plants required and permitted made possible a more closely knit social organization which probably flowered rapidly and resulted in the building of such outstanding structures as Cahokia, in southern Illinois across the river from St. Louis, Missouri; Etowah in southern Georgia; Moundville in northern Alabama; and Kolomokee in southwestern Georgia.

Archaeological techniques have been refined to such an extent within the past ten or fifteen years that we are now able to differentiate between various prehistoric mound builders, both in time and culture. Unrelated cultures have been roughly outlined, similarities have become obvious. Within the past five years a definite step forward has been made in the establishment of the fact that one of the outstanding cultures in the Upper Mississippi Valley, now known as the Hopewell culture, has been found to have existed as far south as central Louisiana. More than this, we have been able to determine that this Hopewell phase in the South is the basic prehistoric culture.

With this as a starting point, we are now gradually showing evolution and migrations of this basic culture, which enables us to determine more accurately the prehistoric ancestors of some of our historic Indian tribes in the south. If the present impetus for determining these prehistoric relationships can be furthered, we are justified in believing that not many years will pass before a readable and more definite reconstructed prehistory can be written with regard to the Indians in the Mississippi Valley.

SOME MISCONCEPTIONS ABOUT THE AMERICAN INDIANS

By M. W. Stirling

Chief, Bureau of American Ethnology

It is a strange fact that practically none of our grade or high schools and relatively few of our universities teach courses designed to give a true picture of the history and prehistory of the American Indian. In the case of the lower schools this is due in part to the fact that there are very few suitable text books available. Any high school graduate has a fair idea of the glory that was Greece or Rome, but very few indeed have an accurate idea for example of the equally great cultural achievements of the Maya and the Incas, or of the advances in political organization made by such tribes as the Iroquois. As a result of the general inability to obtain this information, many basic misconceptions concerning the Indian have gained a firm footing in popular tradition and have been perpetuated in many cases by improperly informed writers.

Because of the fact that the American aborigines did not develop a true system of writing, the task of reconstructing the past has of necessity been undertaken through the researches and excavations of the archaeologist. The quipu knot records of the ancient Peruvians, the recorded astronomical calculations of the Maya, and the realistic picture records of personal achievements and calendar counts which were painted on skin by the Plains Indians and others give us some small information, but none of these can in any way be interpreted as historical accounts.

In discussing these points it must be borne in mind that at the time of discovery, the New World was inhabited by hundreds of tribes with widely differing beliefs, modes of living and degrees of culture. In speaking of a people whose culture varied between that of the Maya on the one hand and the Seri for example on the other, it is obvious that no general statements can be made which will cover all cases. However, the effort has been made in this brief account to bring out such points as are most typical.

The earliest of all the misconceptions about the Indians arose immediately upon the discovery of America, when Columbus thought he had reached the East Indies and therefore called the natives "Indians."

Early in the 16th century, when America became definitely recognized as a separate continent, Europe began to speculate upon the probable origin of the natives. By this date Christianity had become firmly entrenched as the religion of Europe. In keeping with the religious spirit of the age, a solution of the problem was first sought in Hebrew tradition. As a result there were soon circulated many publications purporting to demonstrate that the Indians were descendants of the "Lost Tribes of Israel." As there are certain basic similarities in the customs of primitive peoples throughout the world,

it was an easy matter to demonstrate resemblances between the American Indians and the early Hebrews.

Speculation did not stop at this point, however. Energetic writers began to see resemblances between the pyramids and temples of Central America and Mexico and those of ancient Egypt or India. Others thought that they could see the hands of the Phoenicians or the Greeks in some of the customs of the Indians; in fact, most of the high civilizations of Europe, Asia and Africa were each supposed by some writer at some time to have been the point of origin of the Indian or of his civilization. Not content with having exhausted all of the known culture centers of antiquity, enterprising theorists had drawn upon mythical or assumed civilizations in order to furnish parents for our orphan natives. The myth of Atlantis and the theory of a lost continent in the Pacific have furnished colorful material for fanciful accounts of supposed ancient migrations.

The story of tribes of "White Indians" is one of the most persistent of the legends connected with the alleged exotic origin of the Indians. As early as the 17th century Wefer noted the frequent existence of Albinos among the natives of Panama, and there have been frequently occurring notices of these people since that time. The supposed ancestors of these groups have been variously attributed to the Norsemen, the Irish and the Welsh. Needless to say, these stories are the result of colorful imaginations and the supposed evidences produced invariably collapse when investigated closely.

In connection with popular ideas of this nature there might be mentioned the widespread belief in the past or present existence of such abnormalities as races of giants, pygmies or people with tails. The folk lore of the Indians often contains stories of giants and dwarfs to which credence has frequently been given by white hearers. In old burials unskilled observers have sometimes mistaken the skeletons of children for those of dwarfs. The fallacious idea of a race of dwarfs is most prevalent in the Pueblo region of the Southwest. This is due partially to the finding of the mummies of children, and partly to the frequent occurrence of miniature storage rooms with small doorways, these having been interpreted as the dwelling places of pygmies.

Never a year passes without at least one newspaper report of the finding of the bones of an alleged giant. These finds when investigated invariably turn out to be the bones of large mammals, fossil or otherwise, supposed by the discoverers to be human remains. In some instances actual human remains in a burial have become separated in such a manner as to give to the untrained observer the impression of abnormal stature. To untrained observers, human bones for some reason usually appear much larger than they expected.

It might be said at this point without attempting to go into details that the studies of anthropologists have demonstrated that all of the American Indians are essentially of one generalized racial type, probably the basic type from which the mongoloid peoples of Asia have also sprung.

There are a number of beliefs which have long held general credence concerning the existence of pre-Indian or non-Indian races in America. It was believed for a long time that the mound builders of the Ohio and Mississippi valleys and the cliff dwellers of the southwestern United States were not only racially distinct from the historic Indians, but possessed a civilization superior to them.

These beliefs have persisted in spite of the fact that it is now well known that many of the mounds were erected during historic times, and their functions described by early travelers. Many of the mounds when excavated contain numerous articles of European manufacture. The skeletons and artifacts found in the pre-Columbian mounds show that their builders were Indians with a culture differing in no material degree from their proto-historic descendants.

The pueblo dwellings erected on the cliffs in the arid Southwest were in no way distinct from other pueblo dwellings. Pueblos were built on the cliffs at a time the inhabitants were in fear of attack from invading enemies. The cliff dwellings were inhabited simultaneously with many other southwestern villages throughout virtually the entire period of occupancy of this region. We now know from the growth of tree rings in wooden beams found in the structures the exact years in which they were erected. Most of the principal cliff dwellings were erected in the 13th and 14th centuries.

Probably no misunderstanding brought about as much ill feeling and bloodshed between the Indians and whites as the difference in concept concerning the ownership of land. The land within the tribal boundaries typically belonged to the tribe as such. Neither the individual nor the family possessed vested rights in land although each family might appropriate for purposes of cultivation as much as they required of any unoccupied land within the tribal boundaries.

It was therefore impossible for any chief, family or any section of a tribe legally to sell or give away any part of the tribal holdings. Naturally any documents or purchases of this nature had no meaning to the early Indians. The first settlers seemed never to have learned this fact. Regardless of any negotiations carried on by individuals, the Indians of course considered themselves ousted when the whites took possession of their lands.

The religious beliefs and philosophies of the Indian have been but little understood by the layman. Descriptions by Europeans were almost invariably made in the familiar terminology of the Christian religion and interpretations were strongly influenced by the particular religious training of the European observer. Attempts to explain Indian religion by any sort of comparison with the so-called monotheistic religions of the Old World are bound to fail.

Such familiar terms as "Great Spirit" and "Happy Hunting Grounds" were coined by Europeans in attempting to explain Christian concepts to the

Indian. The conception of a ruling all powerful deity is a political analogy applied to supernatural powers which could be conceived only by a people aware of permanent centralized power, such as existed typically only in the Old World. Such groups as the Incas and the Natchez looked upon an individual theocratic head as the human representative of the sun and his authority was of a religious rather than of a political nature.

Generally far removed from any such centralization of religious ideas was the Indian belief in a multitude of spirits whose abode was to be found in nature and in both animate and inanimate objects. His rituals and offerings were given with the idea of propitiating these spirits. Behind all this was the somewhat mystic conception of an impersonal supernatural force which permeates all nature and animates all phenomena which control the destiny of man; the Iroquois describe this by the term Orenda, the Algonquian, Manito and the Shoshonean, Pokunt.

The Indian in no way mixed his ethics with his religion. Moral principles of good or evil were not a characteristic of his deities, as his religion was a practical one. Consequently ideas of reward or punishment after death or any such spirit abodes as a happy hunting ground or an Indian hell were equally foreign to his conceptions until the idea became implanted in some instances by missionaries. Dreams or artificially induced visions, wherein he frequently saw and spoke with individuals known to be dead was ample proof to the Indian of the existence of a soul and an after life. Offerings placed with the dead were a manifestation of this belief. The souls of the dead, however, were typically feared and usually magical measures were undertaken to prevent their return.

There is a widely prevalent belief among many whites that there is a single general Indian language and that it is a primitive sort of speech, inadequate to express ideas fully, and which, to be understood, must be helped out by gestures. As a matter of fact the diversity and complexity of Indian languages is amazing. With no written literature to stabilize them, languages differentiate with great rapidity. There are among the tribes north of Mexico approximately fifty totally unrelated linguistic stocks and well over 600 dialects which are unintelligible one to another. Contrary to the prevalent notion, the vocabularies are rich and their grammatical structure intricate and systematic. Without exception these languages are capable of accurately expressing the most abstract ideas.

One of the greatest of absurdities was the application of terms of royalty to the Indians by Europeans. It is perhaps natural that the first explorers, accustomed to Europeans' ideas of regal descent and individual political power, should apply such terms as "king" and "queen" and "princess" to members of the simply organized democratic village tribes of America. The idea of a legal executive head (entirely foreign to the Indians) was fostered by the colonists because of the aid it gave in the transaction of business, particularly in regard to sale of land, which as has been already indicated, could not be done by tribal dealings.

The idea of inherited rank was for the most part foreign to the native concept. Even the so-called chief among many tribes was recognized as leader only because of his personal exploits or a generally recognized ability. Such a leader had no actual authority, his role being purely advisory.

In some tribes, such as the Iroquois, and some pueblo tribes, certain chieftaincies were always selected from a particular clan. While there were hereditary chieftaincies among various other groups, as a matter of practice such offices were usually elective. It is possible that the political system of the Iroquois influenced the democratic style of government of the United States. Probably the only example in North America of a power analogous to that of a despot was to be found among the Natchez and neighboring tribes of the lower Mississippi. Even in this instance submission to the will of the chief was probably for the most part voluntary and based on religion.

Ideas of caste were as a rule lacking entirely. On the northwest coast of America something like a caste distinction arose based on property holdings and among the Natchez a caste system developed, based on heredity. The idea of individual wealth is not at all characteristic of the Indian.

It is very generally believed that there are many "lost arts" in connection with Indian civilizations. Among these might be listed the belief that Indian doctors had knowledge of certain specific medicines, usually of a vegetable nature, that were particularly potent, and that the "secret" of these is now only in the possession of an occasional old person or has been entirely lost. This idea received a great deal of stimulation during the halcyon days of patent medicine, when Indian remedies were much in vogue.

As a matter of fact the Indian believed most sickness to be caused by the activity of evil spirits which could be removed only by sorcery. Therefore the priest was the physician and treatment consisted in frightening or luring away these spirits. In many tribes there was a crude knowledge of the therapeutic use of certain plants, but even in these instances their application was deeply rooted in magic. The sweathouse which operated somewhat on the principle of a turkish bath was in general use among the Indians, but its use could scarcely be termed a curative measure.

It has come to be very generally believed that the Indians had a method of tempering copper. None of the American Indians knew how to reduce ores. In North America, native copper was treated as a malleable stone and no process of tempering other than by hammering was ever employed. In Middle America and Peru a few copper alloys are found, some of which constitute true bronze. Whether these alloys were natural or whether tin was intentionally added to native copper is not certainly known.

Another series of mistaken beliefs exists in connection with the native art of flaking stone. By many it is thought this is now a lost art, and that when the art was in use, great patience was required to complete an arrowhead or flint knife.

The actual method employed was a pressure process by means of which chips are successively removed by means of a bone or wooden awl shaped tool. Any Boy Scout should be able to complete a perfectly formed arrowhead of flint or obsidian in ten or fifteen minutes. It is quite impossible to shape stone by heating it and dropping cold water on it, despite the wide prevalence of this theory.

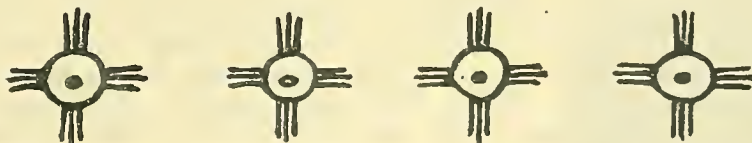
It is likewise thought by many that the Indians had knowledge of complex mechanical principles and devices which were used in erecting some of the large mounds or in moving the large stones such as are found in some of the Middle American and Peruvian ruins. As a matter of fact the only force employed in this work was man power, and the only mechanical aids, the probable use of log rollers and attached lines to which the man power could be applied.

The above misconceptions relate for the most part to attributes mistakenly credited to the Indian which were in advance of his real knowledge or abilities. This list could be almost indefinitely extended, and it could be paralleled by another list in which the actual facts show the Indian to be far in advance of the popular conceptions.

The Indian was much behind his European successors in such matters as the control of natural forces and principles, although his observation and knowledge of the organic life of his environment was surprisingly full and accurate. Virtually every Indian was a born zoologist and botanist and keen observer of nature. The depth and beauty of his philosophy and religion has been but little understood by the white man. As an artist, poet, orator and dramatist, he has never been exceeded.

It is unfortunate that a general knowledge of these facts comes at a time when in most regions of North America the Indian himself has almost forgotten the old customs and the old beliefs. It is a curious fact that the generations to come will have a clearer perspective and understanding of the aboriginal Indian than did most of his white contemporaries.

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RESTORATION OF AN ANCIENT PUEBLO - KINISHBA

An I.E.C.W. Project On The White Mountain Apache Indian Reservation

By Claude C. Cornwall, Camp Supervisor
(With acknowledgement to Dr. Byron Cummings,
University of Arizona, Department of Archaeology)



Dean Byron Cummings

Four miles west of old Fort Apache is the village of Kinishba. Now this Kinishba is not a village in the ordinary sense, because no one has lived there for hundreds of years. But its identity is clearly marked and its progress toward restoration is a moving drama of interest. Its stories are being told in the historic records left by a vanished people who, during the twelfth and thirteenth centuries lived and moved and had their being at this important trading center. When this Pueblo was at the height of its development there were about 700 rooms in the two sections. Whether they were all used at one time is not certain, but a conservative estimate would indicate that not fewer than a thousand people had their homes in this village.

Who Lived At Kinishba?

They were a peaceful people, industrious and home-loving. Their dry farms in the surrounding valley produced corn, beans and squash and this food supply was augmented with deer, antelope, wild turkey and the wild fruits and berries which were hunted in the adjoining mountains. Their clothing was spun and woven from wild cotton and fibres of the yucca, or fashioned from the skins of the animals which they used for food. Outstanding among their many accomplishments was the art of pottery. Bowls were fashioned in different sizes, shapes and colors. Red bowls decorated with designs in black were probably most frequently used, but they also made white pottery which was decorated in black. Three-color ware was perhaps their triumph in pottery, in which they combined red, black and white in a variety of ways. They made ollas or storage jars of a rich red, large cooking pots of dark red or grey. The beauty of the designs they painted on the pieces, the quality of the paste used and the firing all indicate their superiority as workmen and artists.

Kinishba pueblo was a sandstone and clay structure, the large rocks being set in regular courses and then chinked in with smaller rocks and mud. It is built on two sides of a large arroyo, and in one section alone there were fully 150 ground floor rooms built around two rectangular patios measuring approximately 50 by 60 feet. While these people were skillful builders, it is interesting to note that they did not understand how to break joints in masonry work, but piled the large stones in direct vertical layers.

Restoration Begun By University of Arizona

How has all this information been obtained? Well, a part of it, (and according to Dr. Byron Cummings of the University of Arizona, a most important part) has come about as a direct result of E.C.W. activity on the Fort Apache Indian Reservation. Each summer the University of Arizona archaeological department conducts a school on the site of this ancient ruin. As a requirement of their course, the students have been doing work on restoration and conservation of the pueblo and its interesting contents. This "location" school has made possible an opportunity for professional instruction of very great value, available to the Apaches on terms which they could not have duplicated at all, if they had sought it through regular educational channels. Faculty, students and laboratory have come together and set up a University archaeological department right in their own back yard.

Apache E.C.W. Crew Joins In

The Apaches had never understood these ruins; have never known much about them. As a result, valuable archaeological materials were being lost or destroyed, and these libraries of ancient culture were being dissipated, largely because the people did not know or appreciate their value.

It was this educational opportunity which largely prompted the desire to set up an I.E.C.W. project at Kinishba. Here is an area of which the maximum utilization will eventually be its conservation as a public monument. It has already been visited by hundreds of people who have learned and have been inspired, as they have viewed the historic panorama that is being unveiled.

Twenty-one enrollees and one skilled workman make up the Apache crew which has been specially selected for this assignment. The objective has been two-fold; one to get the



Portion of Ancient Wall



Portion of Kinishba Pueblo, Being Restored

work accomplished, the other to provide by this contact an appreciation of the worth of archaeological findings and the value of preserving such materials when they are discovered.

Ruins Rich In "Finds"

Both objectives are being effectively reached. The Indian young men are fascinated with the work. Each new discovery has found them as much interested as the University students. During this season just closed, 30 rooms have been excavated, the whole east wall of the pueblo uncovered and 40 rooms have been restored. These excavations have yielded a rich supply of matter - pottery, shells, bones, fabrics.

One interesting find was a string of tiny black and red stone beads. There were more than 3,300 of them, and they measured nine feet in length. They were strung in a regular pattern, red and black alternating, with the beads graduated as to size. Interspersed were tiny shell beads, and in the center was a small turquoise pendant.

Among other finds this summer was a necklace of wampum and olavilla shells and another of spiral sea shells. Another ornament discovered was a small eagle, carved from stone. But the discoveries which have yielded fundamental facts are the human and animal bones, pottery containing seeds and food supplies, fabrics, and the remaining parts of the pueblo structure itself, preserved intact for centuries under the pile of debris and earth which covers it. Already a change of attitude is filtering through the Apache communities, and the ruins, of which there are several others on the reservation, are being more intelligently regarded.

Restoration Follows Long-Range Plan

Dr. Cummings plans that the restoration shall be left in three stages. The west side of the arroyo is to remain in much the same condition as the whole ruin appeared when first discovered. It then was only a large mound from which one could pick up pieces of broken pottery, sherds of variously colored shattered cooking pots, ollas and bowls - the non-perishable artifacts which once served as the life tools of an ancient culture.

On the east bank of the arroyo the plan is to restore the south half of the pueblo as nearly as possible to its original state. The north

section, which is now being uncovered, will be left in its excavated state, so that visitors may see three stages of archaeological study.

Project 1016-2, as it is officially recorded in the Fort Apache E.C.W. program, has gone forward under unusual supervision. It is interesting to pick up a copy of Form 8, the "Weekly Progress Report" and note that it is signed by Byron Cummings as "acting foreman", and contains such statements under title, "(N) Narrative Report" as follows:

"Began restoration of five rooms and excavation of two rooms during the week. Finished the restoration of one room, except for the roof."

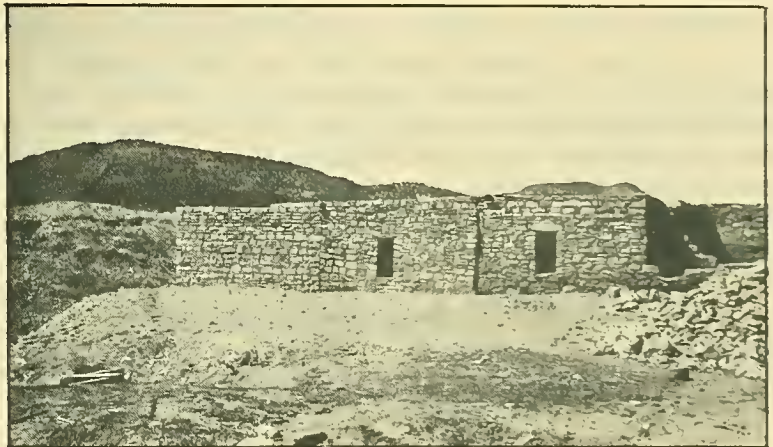
Indians Are Leaders

The E.C.W. enrollee group works always under direct supervision of an Indian leader. Ira Declay and David Kane have shared this responsibility at different times. These Apache youngsters are becoming archaeologists in their own right and can tell you pretty much the story of the ruin as it has been revealed thus far.

Dr. Cummings is highly pleased with his Indian crew, and while there are smiles at his assignment as "Foreman", he takes his E.C.W. responsibility mighty seriously. He says that under the present arrangement they have been able to accomplish as much work in one season as they were able to do previously in four years.

Students And Indians Join In Recreation

The University students have made pleasant contacts with the Apaches. This summer they joined with the Apaches in the Fourth of July celebration at Whiteriver and gave freely of their talent in the program of entertainment. Taken all in all, the Kinishba project is important in many ways, and is leading to a clearer understanding, not only of the culture of an ancient and vanished race, but also of life as it is.



Restored Rooms at Southwest Corner

TONAWANDA INDIANS OF NEW YORK GET COMMUNITY CENTER



The Dedication Ceremony

clinic, showers, recreation room, library, club rooms, museum, study and music room for Seneca group singing. The studio will house the Arts and Crafts Project under the supervision of the Rochester Museum of Arts and Sciences.

Mrs. Walter Henricks of Penn Yan was the moving individual force behind this successful undertaking. It was also through her untiring efforts that favorable action was taken by the New York State legislature in passing the maintenance appropriation bill which allows \$3,000 annually for the support of the building. The entire project will be under the jurisdiction of the state department of social welfare, with provision made for a resident director, assistant director and janitor.

In accordance with the Federal Government Indian treaties, the Indians purchased public land on which the community house is being erected and then leased it to the state for ninety-nine years.

The lines of the cypress log building follow the pattern of the Iroquois Long House enclosed by a log fence simulating the old Indian stockade. The interior of the building will be adorned with Indian murals, carvings, water colors, etchings, oils, ceremonial masks and other examples of Indian art. Federal Arts under Mrs. Audrey McMahon plans a huge curtain for the stage which will depict Indian history and to be done by a Tonawanda Indian artist. Under this same project group, it is hoped, the planting of the grounds will be carried out.

Ground was broken at 2:00 p. m. on November 16 by Tonawanda Indians, by Mrs. Franklin Doctor and by Mrs. Hanover Spring, for the Community and Council House to be built for the Indians of the Tonawanda Reservation in New York. The building, which is to be an educational and health center is the first of its kind provided for a New York State reservation. It was erected by the Federal Government at a cost of approximately \$35,000. In it, there will be an auditorium, gymnasium, meeting room for the chief's council, health

REVOLVING CREDIT FUND OPERATIONS

By H. M. Critchfield, Supervisor of Credit

The Indian credit system authorized by the Indian Reorganization Act is now beginning to function. Up to December 1 a total of nineteen tribes had ratified charters and of these, eleven tribes had submitted applications totaling \$670,000. Those requesting loans were:

Flathead	Santee
Mescalero	Blackfeet
Lower Brule	Rocky Boy's
Ponca	Tulalip
Winnebago	Muckleshoot
Grande Ronde	

Of the remaining eight tribes now eligible to make applications, two tribes, Swinomish and Western Shoshone, have indicated that they do not intend to submit applications at present. Applications for the following six tribes are now in process of preparation:

Omaha	Red Cliff
Flandreau	Pyramid Lake
Tongue River	Fort McDermitt

The credit system is following closely upon completion of the organization work.

In all cases economic development programs have accompanied the applications showing plans for economic improvement, how credit will be used to assist in such improvement, and how the credit activities will be conducted. Applications received from the chartered corporations to date indicate that the tribes realize the advantages to be gained through sound credit operation and their responsibility in connection with this development. The corporation officers seem to realize that the goal of economic security cannot be reached over night and that they must build soundly, with credit as the motive power. The plans provide mainly for the development of the live stock and farming industries.

The use of funds for productive purpose is being stressed. The need for housing and other permanent improvement is great, but the tribal officials seem to feel that if the production side can be set into motion more efficiently, that eventually improvement may be expected along other lines, and that unless funds are invested in productive enterprises the "revolving" feature will be defeated, which must not be allowed to happen.

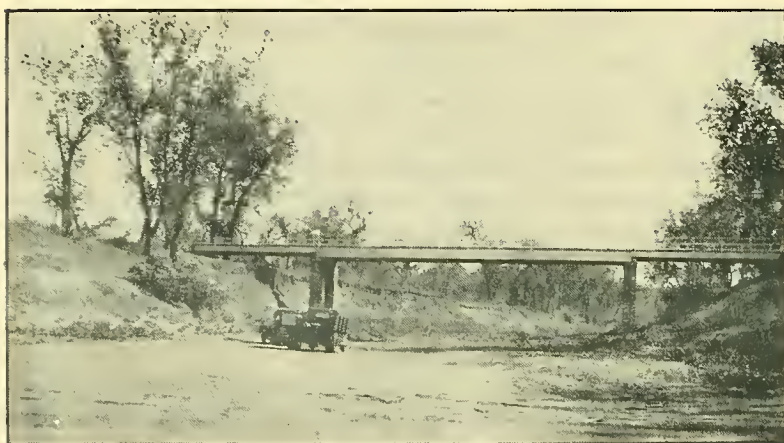
The requests for assistance which the credit agents are receiving from organized tribes show definite thinking along sound credit lines. Reports indicate a marked interest in the cooperative movement, and a desire to proceed on a sound basis, starting conservatively and increasing the size of their enterprises as they gain experience. Development of tribal enterprises is also receiving careful consideration.

A business-like credit system is a new thing in the Indian Service and one of the most encouraging signs is the realization by the corporation officers that they must proceed cautiously until they have acquired more experience along credit lines. They seem to fully recognize that the revolving fund presents opportunities to them which have heretofore been lacking, and intend to do their utmost to help it succeed. The opportunity is there - it is up to them to make the most of it. The Credit Section stands ready to assist them in any way possible. In all instances the tribes are requiring definite plans from their borrowers to show exactly how the funds are to be used, and are proceeding carefully in all their operations. Two things which they are emphasizing most are: First, loans for productive purposes. Second, loans must be repaid and the borrowers' plans must show how repayments can be made.

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BRIDGE BUILDING ON THE CHEYENNE RIVER RESERVATION IN SOUTH DAKOTA

By John J. Durkin, Junior Road Engineer



Moreau River Bridge
Cheyenne River Reservation, South Dakota

Several bridges were included in the road program on the Cheyenne River Reservation. The largest of these is the Moreau River Bridge, east of Promise, South Dakota. This is a 170-foot bridge made up of a 90-foot main span and two 40-foot side spans. The concrete abutments and piers are supported on piles. The roadway is 18 feet wide and 27 $\frac{1}{2}$ feet above low water.

Lack of machinery taxed the ingenuity of the Indian bridge crew, but they overcame all difficulties. The crew did spend several anxious minutes when a cable holding one of the 90-foot girders snapped under the nine-ton load.

ROCK ASPHALT AT UINTAH AND OURAY IN UTAH

By E. Morgan Pryse, Director of Highways

Valuable rock asphalt, suitable for paving purposes, has been discovered on the Uintah and Ouray Reservation in Utah. Perhaps it would be better to say, rediscovered, since the Army people used this native asphalt many years ago to pave the streets and roads around old Fort Duchesne. Preliminary investigations indicate that this asphalt exists in great quantities. The beds near White Rocks are three hundred feet in width; at least that in height, and outcroppings indicate that they probably extend thirty miles under the Uintah range of mountains at a general elevation of some two thousand feet above sea level. Streets paved in Salt Lake City and Vernal with this asphalt as long as seventeen years ago show little difference in condition from streets paved with it during the past year. Tests made by the Utah Highway Commission indicate that this rock asphalt will withstand a pressure of three hundred pounds per square inch, or approximately three times the pressure of oil roads. Sections of Highway No. 40, which crosses the Uintah and Ouray Reservation, is being paved with this native material.

The state is processing this asphalt by merely grinding it up so that the material will pass through a one-quarter inch screen. This is done in order to insure an even spread of the material to a thickness of one and one-half inches on the road. When rolled and completed, the paving is one and one-quarter inches in thickness. The state is using approximately seven hundred tons of the rock asphalt to the mile. The asphalt in its native form runs as high as twenty-two per cent to crude oil and asphaltum. To secure about eleven per cent moisture the low grade asphalt is mixed with the high grade when running it through the crusher and grinders.

A further study will be made to determine the feasibility of mining and shipping this asphalt to other reservations for paving streets around the agencies, hospitals and the more important roads. Aside from a crusher, most of the equipment required in mining and processing is already on hand at Uintah and Ouray.

Asphalt may be described as a semi-solid, sticky residue formed by the partial evaporation or distillation of certain petroleums. This is as true of native asphalts as those obtained by refining petroleums. Only the native asphalts were known to the ancients, but late in the nineteenth century it was found that asphalt was a constituent of certain petroleums and could be recovered from them by distilling off the volatile oils which held it in solution. About eighty per cent of the world's asphalt is produced from petroleum refineries. Sandstone and limestone, commonly known as rock asphalt, is found in various parts of the world; in the United States it is found in Texas, Oklahoma, Alabama, Kentucky and Utah. The largest and best known deposits of relatively pure asphalt occur as an asphalt or pitch lake on the

Island of Trinidad, British West Indies. An especially pure asphalt of very brittle material known as gilsonite, is also found on the Uintah & Ouray Reservation and in Colorado.

Practically all native asphalt is too hard for direct use and must be heated until water, gas and other volatile materials are driven off and then fluxed or softened to the desired constituency by mixing with the proper amount of residual petroleum. On the other hand, asphalt recovered by distillation does not require fluxation as the process is stopped when the production reaches the desired constituency.

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EXTENSION OF TRUST PERIOD ON INDIAN LANDS

By Executive order of September 30, 1936, the period of trust applying to any Indian lands, whether of a tribal or individual status, upon which the trust period was due to expire December 31, 1936, or at any time during the calendar year 1937, was extended for a further period of 25 years. This order applies to lands on at least 18 different reservations. The 25-year period of extension, instead of the 10-year extension that has been granted annually for some time, is in line with the desires of the Indians and the policy of the present administration to hold Indian trust lands under trust.

There are approximately 120 Indian reservations throughout the United States upon which allotments of land have been made. Many of the allotments are covered by patents which provided that the lands belonging to the Indians should be retained under trust for a period of twenty-five years, subject to extension at the discretion of the President. Some reservations contain thousands of allottees whose individual trust holdings, in some cases, embrace as much as one thousand acres.

Extension of the trust periods began about 1909 and such extensions have been for from one to twenty-five years. It was formerly the practice to obtain separate extension orders for each reservation when the trust period was about to terminate but in recent years blanket extension orders similar to the recent one have been made.

Some of the lands affected by the President's recent order are those belonging to the Eastern Shawnees, Absentee Shawnees, Citizen Pottawatomies, Ottawas, Senecas, Wyandottes, Cheyenne and Arapahoes, Oklahoma; some of the Mission Indians of California; those of the Colville Reservation, Washington, and Indian lands of Fort Lapwai, Idaho.

GREAT LAKES AGENCY FISH HATCHERY RAISES HOPES FOR BETTER LIVING

By Ben C. Gauthier - I.E.C.W. Project Manager

One hundred and twenty lakes lie within the boundaries of the Lac Du Flambeau Reservation. Included is the Flambeau chain of nine lakes connected by thoroughfares which are navigable for small boats. The Big Bear River, also known as the Flambeau, has its source from this chain of lakes and winds its way in a westerly direction across the reservation.

In the past sporting magazines frequently contained articles describing the reservation, the Indians and the excellent bass, pike and musk-alonge fishing. Without a doubt the part of the Bear River known as "Lazy Bend" on the Lac Du Flambeau Reservation, has had some of the best "muskie" fishing in the country.

At one time the Indian agency maintained and operated a pike hatchery which was highly successful, hatching fifteen million pike fry each season. Since the hatchery has not operated for some time the lakes have been gradually depleted of their abundant supply of fish and are sadly in need of restocking.

Now a new hatchery is being built. It will be capable of producing annually fifty million pike fry and approximately two million muskalonge fry. These fry will be placed in the waters of the Lac Du Flambeau, Lac Courte Oreilles and the Bad River Reservations.

With the passing of the lumbering era, which provided employment for most of the inhabitants of this region, it is evident that the major source of employment during the summer months must continue to come from vacationists' needs. Restocking our lakes from the fish hatchery now under construction will attract more tourists. These sportsmen need Indian-guides. Also, more vacationists will mean a larger sale of Indian handicrafts.

No wonder that this project is being received with enthusiasm by all residents on these reservations.





Crowheart Butte on Big Wind River
Shoshone Reservation, Wyoming



"Coza Nakota"

AN HISTORIC LANDMARK AT SHOSHONE

At the top of the opposite page is a picture of Crowheart Butte. In March, 1866, a battle was fought in this vicinity between Shoshone and Bannock Indians on one side and Arapahoes, Gros Ventres and Cheyennes on the other. The name was given to this butte by the whites, under a misconception that it was in this battle that "Washakie", Chief of the Shoshones displayed the heart of a Crow Indian chief, whom he had killed, on the point of his lance at a war dance after the battle.

It was at a fight near the Kinnear crossing of Big Wind River that the episode alluded to occurred, forty miles away. The Shoshones call this butte "Bad Medicine Butte" from the following occurrence:

A Shoshone warrior ascended this butte at sunrise one morning to scan the country for Arapahoes, who were said to be looking for a fight with the Shoshones. Not having returned by sundown, his friends became alarmed and started a search for him. He was found dead on the top of the butte lying with his head on his arms, without a wound, evidently a victim of lightning or heart disease. Hence the name "Bad Medicine" or "Bad Luck" butte. No full-blood Shoshone will ascend this butte for any consideration.

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On the left is a picture of Coza Nakota, said to be the only surviving eye-witness of the bloody Crowheart Butte fight. She was shot through the hip and consequently has remained a lifetime cripple. She states that she was thrown from her horse during the fight and witnessed the death and wounding of many of her tribesmen. It was from this old woman that the true history of the fight was obtained.

ADVICE TO AN IROQUOIS LAWMAKER

There is much in the Constitution of the Iroquois Confederacy (known to be in force in 1570 and believed by some students to have been adopted many years earlier), that we prize today in the Constitution of the United States. In this constitution were embodied the principles of initiative, referendum, recall, and the ideal of a constitutional federal democracy in which all men of good will and honor - and women as well - might participate.

Below is a passage(1) from that constitution, as it has been "talked into" wampum and handed down from generation to generation. The nobly-phrased translation is that of A. C. Parker, Director of the Rochester Museum of Arts and Sciences, and himself a member of the Seneca Tribe

It is the exhortation to an Iroquois lawmaker on taking his place at the Council Fire, to enable him to fulfill his pledge to "... live according to the constitution of the Great Peace and exercise justice in all affairs." It is advice by which any lawmaker among any people and in any age might well be guided.

"... You shall now become a mentor of the people of the Five Nations. The thickness of your skin shall be seven spans - which is to say that you shall be proof against anger, offensive actions and criticism. Your heart shall be filled with peace and good will and your mind filled with a yearning for the welfare of the people of the Confederacy. With endless patience you shall carry out your duty and your firmness shall be tempered with tenderness for your people. Neither anger nor fury shall find lodgement in your mind and all your words and actions shall be marked with calm deliberation. In all of your deliberations in the Confederate Council, in your efforts at law making, in all your official acts, self-interest shall be cast into oblivion. Cast not over your shoulder behind you the warnings of the nephews and nieces should they chide you for any error or wrong you may do, but return to the way of the Great Law which is just and right. Look and listen for the welfare of the whole people and have always in view not only the present but also the coming generations, even those whose faces are yet beneath the surface of the ground - the unborn of the future Nation."

(1) A. C. Parker: "Constitution of the Five Nations" (1916); Sec. 28.

THREE INDIAN CHRISTMASES

The Christmas Season At Turtle Mountain in North Dakota

The old French and Indian spirit of Christmas begins at Christmas Eve with midnight mass. After the services are over we all begin to greet our friends. Then we hurry to get home to the little ones and do our part with Santa Clause.

We are awakened in the morning very early, by the sounds of little bugles, trumpets, drums and all sorts of merrymaking toys. The little children with their mouths filled with candy and laughter make us all happy and we wish all the world a Merry Christmas.

Our custom is for the older people to remain at home to await the visits of their children. The parents of the wife are visited first. On arriving at the home of her parents early New Year's morning, the woman kneels in front of her father who gives her absolution and a blessing for the coming year. She then arises and he greets her, "A Happy New Year!", and kisses her. Greetings are then exchanged all around, wraps are taken off and all sit down at the table. Home-made drinks of some kind are usually served before eating. Sometimes old French songs are sung.

The main dishes for this celebration are "bullettes", which are meat balls made of hamburger or other ground meat, onions, salt, pepper and flour mixed together and boiled. Then there is a special kind of cake or pudding called, "La Puchine", which is made of flour, raisins, brown sugar, nutmeg, cloves, soda and milk stirred together. This mixture is poured into a prepared linen bag, which is sewed up at the end, put into a kettle of boiling water and boiled for one and one-half hours.

We choose a certain home in which to meet at night for a merry old-time dance. We have the old-time quadrilles, French four, double jig and all that goes with old times. By Joe Trothier and Pete Marcellais. From "Chippewa"

* * * * *

Christmas At Isleta Pueblo In New Mexico

The night before Christmas every Indian adobe house is beautifully decorated with lighted candles all around the roof of the house.

They start the ceremony with Indian dances at the old Mission church. This is followed by a midnight mass. The Indian dances start about nine o'clock. Two different clans of dancers, six pairs in each clan, take turns in performing. All through the four following days about the same kind of dances are held at the plaza, both morning and afternoon.

The costume of the women is the regulation pueblo dress of black, fastened to the right shoulder. Each wears a scarf of bright-colored silk, tied about the neck. They wear many silver bracelets, necklaces and rings. Each wears white buckskin moccasins, with knee length, wrapped leggings. In both hands they carry eagle feathers. The men dancers are naked to the waist. Their bodies are streaked with fine wavy white lines and a white spot in cheek. Each man carries a gourd rattle in his right hand. He carries a highly decorated bow with many feathers. Below the knee are garters of sleigh bells. Moccasins of dark red leather complete the men's costume.

About ten men in a circle do the singing while a tom-tom keeps the dancers in perfect time. From the "Sandpainter" Albuquerque Boarding School. Albuquerque, New Mexico.

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A Navajo Christmas

The Navajo don't celebrate Christmas like the white people do. One or two days before Christmas they start going to where their children are attending school or to a trading post near where they live. They usually go on horseback, in wagons, trucks and automobiles.

On Christmas Eve they go to the program. When the program is over they receive some presents just as we do at school; especially the ones that have small children and babies. The white people like to give little children and babies gifts.

On Christmas morning they go to church when the schoolchildren go. They all enjoy Christmas dinner together. Everybody has lots to eat. After dinner, if the weather isn't bad, they have foot races, horse races and other kinds of games. Sometimes they have a chicken pull, or a Yei-bi-chai dance, if they want to.

The ones that live far away start going back to their home after dinner or a little later. Some of them stay for the races and dances. They all go home with the gifts they received. By C. B. From Tequayo - Santa Fe School, New Mexico.

FROM I.E.C.W. REPORTS

A Good Word For I.E.C.W. From Great Lakes (Wisconsin) I have been in this camp over twenty-one months and dare say it is the best place I have ever worked since I have been out for myself.

I have learned how to do many different types of work since being enrolled here, where I would not have learned if it had not been for the I.E.C.W. I hope this organization will continue to do its great work, as I know it will, in the future.

We are now in the midst of tree planting and everyone seems to be breaking records in accomplishment in this district as far as tree planting is concerned. A.E. Rehberg.

Various Reports From Osage (Oklahoma) We started to work on this pond, and have had fairly good luck as it was my first one. The only trouble we had was getting down to clay for the core. It began to look like all the clay had turned to rock but we finally got down to it so we are making good time now. Claire Bellieu, Assistant Leader.

We have had fairly good luck on this project. We were rained out three days and had some trouble getting large rocks out of the core. A few cold days, but everyone seemed to enjoy it after such a hot summer. We will complete this project soon. Ben Burnett, Leader.

The regular I.E.C.W. meeting was held at the Osage Agency with an

attendance of about 100. Fred Ahrberg gave an interesting talk on duties of a Farm Agent and relation of I.E.C.W. to his work. James P. Lawyer gave a good talk on irrigation, and Acting Superintendent C. L. Ellis praised the boys on the quality of work so far completed by I.E.C.W. Dr. Wyrick gave a short talk on injuries and health. Following the meeting coffee and doughnuts were served.

Basket ball practice has started with a turnout of 12 men and more will turn out for it as soon as first aid classes are completed. William F. Lobadie.

Excavation of Drainage Canal At New York. Ideal working conditions enabled our crew to complete very good percentage this week. Many yards of dirt are now being moved away from the ditches and all the stone which was blasted out last winter is also being removed.

The water from the recent heavy rains is well taken care of by the ditch. Some of the men have been working in water knee-deep. Joseph F. Tarbell.

Snowstorm At Pierre School (South Dakota) Our first storm of the season arrived and it made it necessary for us to start working on our check dam and get it in shape for spring floods due to heavy snows on the hills.

We had a number of yards of dirt to put on the top and center of the fills so as to drive the water to

our spillway. We also had to build a snowplow to break the roads so as to travel to and from our different projects. It looks as though we are going to have one of the old-fashioned winters with lots of snow. We need the moisture. S. J. Wood.

Fence Repair At Colorado River (Arizona) Started to work on the "Moon Mountain Pasture", repairing old fence and constructing new fence. This pasture will be used to hold cattle, that have been gathered in outlying districts.

This week we repaired 950 rods of fence. Lute Wilson.

Truck Trail Construction At Yakima (Washington) There has been a considerable amount of work done this week. The grader crew has been smoothing the trail down and it is ready to be used from the Big Muddy on through to the bridge across the Klickitat River. The compressor crew is drilling and blasting on the west side of the Big Muddy.

The caterpillar is pushing stumps out of the right-of-way near the boundary of the reservation and is having a tough time of it in places. Charles Hilbun.

Various Projects Being Conducted At Winnebago (Nebraska) During the past week tree planting on Soil Conservation dams has been completed at Winnebago.

Repair work has progressed very rapidly on the Omaha Reservation, partially due to the excellent weather conditions and partly due to the keen interest shown by the men on this project.

The work of clearing trees went along rapidly this week due to the fact that an old trail was followed which needed only the side slopes grubbed; the trail then followed a ridge the rest of the way which was sparsely timbered. The grading unit has caught up with the clearing and this project will be finished this week. Norman P. Lessor, Foreman.

Post Cutting At Hopi (Arizona) A record cut of slightly over 1,200 posts this week completes the post cutting program. Every effort was made to complete the cutting this week and get the posts stacked near some main road before snow flies. As the cutting was high on the mountain and in thick timber, a heavy snow would have closed this area to trucks. Rivalry was keen among the enrollees swinging the axes, and a daily score board was kept showing the high man. Hostien Gonnig Begay with a high score of 49 posts held the championship without question. The cutters far outworked the teams so that it will be necessary for two teams to return and haul for three days next week.

The fencing crew is still encountering difficulties in the badlands of the Painted Desert, but are making good headway despite the rough going. Absence of roads and trails make delivery of material hard. The "Cat" will be tied up for repairs and servicing until Wednesday of next week, when it will resume work with the drag and small grader on the main trails and then snake in some more posts. Ellsworth W. Nichols.

Water Development At Fort Totten (North Dakota) Eight wells have been bored and casing placed to date. One well was completed this week with the

boring machine. We had to go down 77 feet through slate, stone, gravel, before we struck water. One well was dug and casing placed during the week. A second dug well was started this week and nearly completed. Four wells were repaired this week

Two miles of grading and one fill have been completed to date. Brushing was completed and stones removed from roadbed, $\frac{1}{2}$ mile ahead of grader. All surveying was completed. Frost and snow have not hindered us, but stone above and below surface has taken considerable time and man power. C. A. Hubel.

Praises for I.E.C.W. From Navajo (New Mexico) How nice it is for I.E.C.W. to build reservoirs for the Navajo and the springs so that horses, cattle and sheep can have plenty of water to drink. How nice it is for I.E.C.W. to fence the reservoir to protect it for many years, and the Navajo knows just where to go for their water, and we Navajo say thank you to I.E.C.W. Archie Atcitty.

Well Digging At Standing Rock (North Dakota) We finished Well No. 5, cased it, and it is now ready for the pump.

The crew moved to Well No. 2 to re-dig at least 8 feet more in order to get good water. The work has been slowing up because of the cold days, but we are doing the best work we can. Edmund Manydeeds, Assistant Leader.

Various Projects At Eastern Cherokee (North Carolina) Work this week has been on the Washington Creek truck trail and the fire trails. Rain on Thursday prevented work in the field, so the time was spent in

repair to tools and equipment at the garage. Jarret Blythe.

We started a new horse trail this week. Had a small crew working on some cribbing on Project 65. The trail builder is on the last part of the truck trail. There is a cliff of rock to go around which is very bad and will take a day to get around for the last stretch. Roy Bradley.

Completion Of Project At Tulalip (Washington) This week has seen the completion of one of our major projects at this jurisdiction and the beginning of another.

The truck trail, the project just completed, has been under construction for about two years.

The project on which work has just commenced is the Lummi Dike project and is situated about 75 miles from headquarters. Theodore Lozeau.

Sodding At Cheyenne and Arapaho (Oklahoma) Work on sodding was pushed all possible this week in order to get all the sod in that we could and have it growing and set good before the cold weather sets in. It looks as if winter will be in this part of the country pretty soon. The men worked good. Den Black Horse.

Work On Truck Trail At Couer d'Alene (Idaho) The work on the truck trail was completed the middle of the week. That makes the trail so a person can travel on it during the winter, instead of it being cut up and full of ruts. We also started a horse trail on one of the reserves. This reserve needed a trail as it has no road. It will help the people in many ways. Austin Corbett.

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